Serial No. 10/559,376

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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An intraocular lens, in which

a curvature on at least one of the lens surfaces follows the function:

$$y^2 = px - (1 + asph) x^2.$$

wherein x coincides with the direction of light propagation or the lens thickness, y specifies the direction perpendicular thereto, radially outwardly with respect to the lens centre, p is any parameter and asph is the asphericity, and;

having a configuration such that, in an in vivo environment of an eye, an incoming wave with an elliptically oblongly curved wave front is refracted into an outgoing wave with a substantially spherical wave front.

2. (Previously Amended) An intraocular lens according to claim 1,

wherein the lens has a positive refractive power in the environment and a negative spherical aberration.

3. (Previously Amended) An intraocular lens according to claim 2, Page 2 of 7 wherein the lens has a refractive power at the center of the lens which in the environment is greater than or equal to +3 dpt, and wherein the lens is so configured that, in an air environment, an incoming wave with a substantially plane wave front is refracted into an outgoing wave with a hyperbolic wave front.

4. (Previously Presented) An intracular lens according to claim 3,

wherein the hyperbolic wave front has an asphericity of less than or equal to -5.

5. (Previously Presented) An intraocular lens according to claim 3,

wherein the lens has at least one convexly curved surface whose curvature has an asphericity of less than or equal to -1.

6. (Previously Amended) An intraocular lens according to claim 1,

wherein the lens has a refractive power at the center of the lens which in the environment is at most +2 dpt and at least -1 dpt, and wherein the lens is so configured that an incoming wave with a substantially plane wave front is refracted into an outgoing wave whose apex surface has a meridian with an inflexion point.

7. (Previously Amended) An intraocular lens according to claim 1,

wherein the lens has a refractive power at the center of the lens which in the environment is less than or equal to -2 dpt, and wherein the lens is so configured that an incoming wave with a substantially plane wave front is refracted into an outgoing wave with an elliptically oblongly curved wave front whose aspericity measured in air is greater than + 10.

- 8. (Previously Amended) A method of determining the imaging properties of an intraocular lens, according to claim 1, comprising:
 - producing a parallel light beam,
 - orienting the light beam onto the intraocular lens,
- breaking the light beam refracted by the intraocular lens down into a plurality of focused beams via a lens arrangement, and
- detecting local distribution of the focus beams focused by the lens arrangement.
- 9. (Previously Presented) An intraocular lens according to claim 5, wherein the hyperbolic wave front has an asphericity of less than or equal to -5.